

RH

Work Order ID 76616

\*76616\*

Page 1

November-18-11 9:18:19 AM

Item ID: D206-642-151

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Replacement Skidtube

Start Date: 18/11/2011 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 16/01/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: M.L.J. Date: 11/11/18

Tooling:

Date:

Run Start \*NR1\*

QC: Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3804	A								
IIN-D206-642	O								

100

0.00

\*100\*

DOCUMENT CONTROL

DC

0.00

Document Control

Memo

Photocopy bluefile & type labels per PPP D206-642-151

CHG001

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Item ID: D206-642-151      Accept      **\*N900040100\***      Setup Start **\*NS1\***  
Revision ID:      Stop **\*NS2\***  
Item Name: Replacement Skidtube  
Start Date: 18/11/2011      Start Qty: 1.00      **\*1\***      Cust Item ID:  
Required Date: 16/01/2012      Req'd Qty: 1.00      **\*1\***      Customer:  
Reference:

Approvals:      Process Plan: \_\_\_\_\_      Date: \_\_\_\_\_      Tooling: \_\_\_\_\_      Date: \_\_\_\_\_      Run Start **\*NR1\***  
QC: \_\_\_\_\_      Date: \_\_\_\_\_      SPC (Y/N): \_\_\_\_\_      Date: \_\_\_\_\_      Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

**\*110\***

Skidtubes

Skidtubes

Skidtubes

**Memo**

1-Deburr Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D3804

3-Weld Fwd Cap as per Dwg D3804. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty Part Number Description Batch

A/R Aluminum Rod *m117689/m 118735* *BE 11-12-13*

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg D3804 from front of tube and Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D3804

7-Open holes for Aft end cap as per Dwg D3804 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt8166 &amp; DT8169D &amp; DT9771.

9-Locate DT8732 from inner Aft saddle hole &amp; 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 &amp; D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 &amp; doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

*{ SAG 11-12-10**{ SAG 11-12-13**{ SAG 11-12-14*

W/O:		WORK ORDER CHANGES					
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Item ID: D206-642-151

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**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Replacement Skidtube

Stop **\*NS2\***

Start Date: 18/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 16/01/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D3804

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D3804

15-C'sink GHW rivet holes as per Dwg D3804

16- Open Aft cap hole #6.  
\*\*\*\*no wearplate holes for this skidtube\*\*\*\*

17-Deburr tube and blow out chips from inside the tube

120

QC6- Inspect dimensions to drawing

0.00

**\*120\***

QC

Memo

0.00

Quality Control

SAD  
11-12-14

De  
11/12/14

5-11-12/14

W/O:		WORK ORDER CHANGES					
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***Stop **\*NR2\***

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140 Chemical Conversion Coat per QSI005 4.1

0.00

**\*140\***

HandFinish

Memo

0.00

Hand Finishing

85 11-12-16

150 QC3- Inspect Part Finish

0.00

**\*150\***

QC

Memo

0.00

Quality Control

11-12-16

160 Skidtubes

0.00

**\*160\***

Skidtubes

Memo

0.00

Skidtubes

1-Open holes to finished size as per Dwg D3804, (without cutting fluid)

2-C'sink crossbolt spacer holes as per Dwg D3804(without cutting fluid)

3-Deburr and blow out all chips from inside the tube

11/12/16

W/O:		WORK ORDER CHANGES					
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 Revision ID: Stop **\*NS2\***  
 Item Name: Replacement Skidtube  
 Start Date: 18/11/2011 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 16/01/2012 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 <b>*170*</b> QC Quality Control	QC6- Inspect dimensions to drawing  Memo	0.00  0.00							 11-12-16
180 <b>*180*</b> Skidtubes Skidtubes	Skidtubes  Memo 1-Locate, install and rivet doublers as per Dwg D3804. Micro-shave rivets as required  2-Bond D2654-1 web in place as per QSI 015. Ensure holes line up. Allow 12 Hrs. cure time before cutting Start Date: 11/12/16 Time: 12:00 Finish Date: 11-12-19 Time: 9:30  Pick: Qty Part Number Description Batch A/RSikaflex-291 119508 Sikaflex expire date: 12-08-13	0.00  0.00							ET 11-12-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Item Name: Replacement Skidtube

Start Date: 18/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 16/01/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Run Start **\*NR1\***

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC5- Inspect part completeness to step on W/O	0.00							
<b>*190*</b>									
QC	Memo	0.00							
Quality Control									

1 0 BE11-12-19

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

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Item Name: Replacement Skidtube

Start Date: 18/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 16/01/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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200

0.00

**\*200\***

Skidtubes

Skidtubes

Memo

0.00

1-remove alodine from around hole and prepare for welding

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

QtyPart NumberDescriptionBatch

A/RAluminum Rod M117809

3-Grind welds flush as per Dwg D3804.

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D3804.

Remember to back drill each hole to Ø0.402" before welding other side. Use SS rod as required.

A/RSS Rod NONE BE 11-12-19

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D3804. Deburr

BE 11/12/1911/12/20DD 11-12-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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 Start Date: 18/11/2011 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 16/01/2012 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	HandFinishing	0.00							
<b>*210*</b>	HandFinish	0.00							
Hand Finishing	Memo Install D2680-041 Nut Plate as per Dwg D3804								
	RH								
215	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
<b>*215*</b>	QC	0.00							
Quality Control	Memo								
220	QC10- Inspect visual per QSI004- ground welds	0.00							
<b>*220*</b>	QC	0.00							
Quality Control	Memo								

SL JB 11/12/20

11.12.20

11/12/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**\*76616\***

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**Start Date:** 18/11/2011      **Start Qty:** 1.00

**\* 1 \***

**Cust Item ID:**

**Required Date:** 16/01/2012      **Req'd Qty:** 1.00

**\* 1 \***

**Customer:**

**Reference:**

Run Start \*NR1\*

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Stop **\*NR2\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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230

QC5- Inspect part completeness to step on W/O

0.00

**\*230\***

QC

## Memo

0.00

## Quality Control

240

Pressure Wash per QSI005 4.3

0.00

**\*240\***

HandFinish

## Memo

0.00

## Hand Finishing

250

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

**\*250\***

### Powdercoat

## Memo

0.00

## Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

$$\begin{array}{r} 7 \div 40 = 0.00 \\ \underline{32} \end{array}$$

W/O:		WORK ORDER CHANGES					
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
260	QC3- Inspect Part Finish	0.00							
<b>*260*</b>						1RH	6	461223	
QC	Memo	0.00							
Quality Control									
270	HandFinishing	0.00							
<b>*270*</b>						1RH	6	461223	
HandFinish	Memo	0.00							
Hand Finishing	1-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D3804. Clean excess adhesive.								

W/O:		WORK ORDER CHANGES					
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	HandFinishing	0.00							
<b>*280*</b>									
HandFinish	Memo	0.00							
Hand Finishing	✓ 1-Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive A/RSikaflex-291 <u>1118808</u> Sikaflex expire date: <u>12/09</u> 2- Install wearplate as per dwg 2-Wing Walk as per Dwg D3804 and QSI 005 4.4 Batch: <u>1119094</u>								
290	QC3- Inspect Part Finish	0.00							
<b>*290*</b>									
QC	Memo	0.00							
Quality Control									

IRH  $\phi$  JEL 12/01/12

Szabuly

W/O:		WORK ORDER CHANGES					
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 Required Date: 16/01/2012 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
300 <b>*300*</b> QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00							
310 <b>*310*</b> Packaging Packaging	Packaging  Memo Identify and pack for shipping as per PPP D206-642-151 Location: _____ PPP Rev: _____	0.00 0.00							
320 <b>*320*</b> QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							

8/12/11/11

75 751

12/1/10

12/1/18

12-01-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Page 1

November-18-11 9:18:23 AM

Work Order ID: 76616

**\*76616\***

Parent Item: D206-642-151

**\*D206-642-151\***

Parent Item Name: Replacement Skidtube

Start Date: 18/11/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 10.12.08 PER IIN REV.N DD VERF:EC IPP  
REV:B 11.09.16 PER IIN REV.O DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2620		Manufactured	No			110	Each	14.0000	1	1			
<b>*D2620*</b>													
Skidtube, 206 Skidtube													

\*\* SAD 11-12-10

Location	Loc Qty	Loc Code
LG	14	
71616	3	
71617	6	
74459	2	
74460	3	

D2647		Manufactured	No			110	Each	253.0000	1	1			
<b>*D2647*</b>													
Cap													

\*\* BE11-12-13

Location	Loc Qty	Loc Code
LG002	253	
55352	3	
71171	1	
73826	139	
75482	110	

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

November-18-11 9:18:23 AM

Work Order ID: 76616

\*76616\*

Parent Item: D206-642-151

\*D206-642-151\*

Parent Item Name: Replacement Skidtube

Start Date: 18/11/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-04

Purchased

No

180

Each

15,860.00

52

52

\*CR3212-4-04\*

Cherry Rivet

\*\*

SAD 11-12-14

## Location

## Loc Qty

## Loc Code

ST331

5870

116471

78

117816

3

118686

1

118840

16

119017

5762

119075

10

st510

9990

119075

9990

D2654-1

Manufactured

No

180

Each

4.0000

1

\*D2654-1\*

Web

\*\*

SAD 11-12-14

## Location

## Loc Qty

## Loc Code

LG

4

73794

1

73799

1

75475

1

75477

1

76755

D3286-1

Manufactured

No

180

Each

175.0000

2

2

\*D3286-1\*

Doubler

\*\*

SAD 11-12-14

## Location

## Loc Qty

## Loc Code

LG002

175

74111

1

74441

4

74872

59

75484

111

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

November-18-11 9:18:23 AM

Page 3

Work Order ID: 76616

**\*76616\***

Parent Item: D206-642-151

**\*D206-642-151\***

Parent Item Name: Replacement Skidtube

Start Date: 18/11/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

200

Each

461.0000

19

19

**\*D2649\***

Cross Bolt Spacer

\*\*

SAD

11-12-14

Location

Loc Qty

Loc Code

LG

134

68224

2

71355

2

72704

2

72841

11

73855

117

LG001

327

65317

1

68507

11

73390

8

73857

21

73858

282

73860

4

B76993

19

D3286-3

Manufactured No

200

Each

153.0000

2

2

**\*D3286-3\***

Spacer

\*\*

B211-12-18

Location

Loc Qty

Loc Code

LG

72

74870

72

LG001

1

74117

1

LG002

80

75483

80

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

# Picklist Print

November-18-11 9:18:23 AM

Page 4

Work Order ID: 76616

**\*76616\***

Parent Item: D206-642-151

**\*D206-642-151\***

Parent Item Name: Replacement Skidtube

Start Date: 18/11/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2680-041 Manufactured No

210 Each

46.0000

1

1

**\*D2680-041\***

Nut Plate

\*\*

1 BB 11/12/20

Location

Loc Qty

Loc Code

LG

75479

1

73334

1

ST020

45

73854

45

CR3212-4-03

Purchased No

210

Each

1,904.000

2

2

**\*CR3212-4-03\***

Cherry Rivet

\*\*

2 BB 11/12/20

Location

Loc Qty

Loc Code

FB

2

110139

2

ST331

1902

114859

902

119017

1000

AN960JD416

NAS1149D0463J

Purchased

No

210

Each

0.0000

1

1

**\*AN960JD416\***

Washer

\*\*

1118384 Ud 11/12/20

CCR264SS3-3

Purchased

No

210

Each

1,163.000

2

2

**\*CCR264SS3-3\***

Cherry Rivet

\*\*

2 BB 11/12/20

Location

Loc Qty

Loc Code

FP

2

113973

2

ST311

187

117849

187

ST317

974

119017

974

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



# Picklist Print

November-18-11 9:18:23 AM

Work Order ID: 76616

**\*76616\***

Parent Item: D206-642-151

**\*D206-642-151\***

Parent Item Name: Replacement Skidtube

Start Date: 18/11/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

MS27039-4-06

Purchased

No

210

Each

384.0000

1

1

**\*MS27039-4-06\***

Screw

\*\*

M119075 (x1) M 11/12/23

Location

Loc Qty

Loc Code

ST291

384

119075

384

D2651-1

Manufactured

No

270

Each

745.0000

6

6

**\*D2651-1\***

Plug

\*\*

M 11/12/23

Location

Loc Qty

Loc Code

FP

745

57869

1

66445

10

69018

2

70839

2

71037

31

73827

699

D2651-3

Manufactured

No

270

Each

1,235.000

6

6

**\*D2651-3\***

O-Ring

\*\*

M 11/12/23

Location

Loc Qty

Loc Code

FP

1235

61962

12

73489

223

73828

1000

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 6

Work Order ID: 76616

**\*76616\***

Parent Item: D206-642-151

**\*D206-642-151\***

Parent Item Name: Replacement Skidtube

Start Date: 18/11/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

D3873-1 Manufactured No

280 Each 821.0000 14 14

**\*D3873-1\***

Bushing

\*\*

1376792 (x6) M 11/12/11

Location

Loc Qty

Loc Code

ST088

821

64760

1

68247

4

73829

19

73830

16

73832

400

75481

381

D2646 Manufactured No

280 Each 235.0000 1 1

**\*D2646\***

Aft Cap

\*\*

1373825 (x1) M 11/12/11

Location

Loc Qty

Loc Code

FP002

218

73294

20

73825

198

FP004

8

68280

5

70945

1

71070

2

FP005

4

71038

4

FP006

5

62678

5

D3805-041 Manufactured No

280 Each 1.0000 1 1

**\*D3805-041\***

Wearplate Assembly Fwd, Low Gear

\*\*

1376755 (x1) M 12/01/11

Location

Loc Qty

Loc Code

FP001

1

74893

1

November-18-11 9:18:23 AM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

November-18-11 9:18:23 AM

Page 7

Work Order ID: 76616

**\*76616\***

Parent Item: D206-642-151

**\*D206-642-151\***

Parent Item Name: Replacement Skidtube

Start Date: 18/11/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-08

Purchased

No

280

Each

1,747.000

2

2

**\*MS27039-1-08\***

Screw

\*\*

*u 11/12/12 23*

Location

Loc Qty

Loc Code

ST291

1747

117423

117

118378

130

118910

500

119075

500

119109

500

*x2*

MS21042L3

Purchased

No

280

Each

8,753.000

7

7

**\*MS21042L3\***

Nut

\*\*

*u 11/12/12 22*

Location

Loc Qty

Loc Code

ST300

255

117441

16

117885

35

118451

5

118927

199

ST516

6000

119017

6000

ST518

2498

119075

2498

*x-7*

D3805-045

Manufactured

No

280

Each

5.0000

1

1

**\*D3805-045\***

Wearplate Assembly Aft; Low Gear

\*\*

*B76783 (x4 del 12/01/11)*

Location

Loc Qty

Loc Code

FP

5

73817

1

74896

1

74938

3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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# Picklist Print

November-18-11 9:18:23 AM

Page 8

Work Order ID: 76616

**\*76616\***

Parent Item: D206-642-151

**\*D206-642-151\***

Parent Item Name: Replacement Skidtube

Start Date: 18/11/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

AN960JD10L NAS1149D0332J Purchased

No

280

Each

0.0000

2

2

**\*AN960JD10L \***

Washer

\*\*

*All 118389677 M 11/12/12*

AN3-37A Purchased

No

280

Each

1,966.000

7

7

**\*AN3-37A \***

Bolt

\*\*

*M 11/12/12*

## Location

## Loc Qty

## Loc Code

ST354

4

117619

4

ST518

1962

119086

1962

*x7*

NAS1149D0363J Purchased

No

280

Each

4,434.000

7

7

**\*NAS1149D0363J \***

Washer

\*\*

*M 11/12/12*

## Location

## Loc Qty

## Loc Code

ST019

16

117505

16

ST295

3000

119537

3000

ST298

1418

117601

148

118077

1

118612

55

118968

1214

*x7*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



ITEM	Qty -041	Qty -043	Part Number	Description
1	X		D3804-041	SKIDTUBE ASSEMBLY, 206 A/B LOW
2		X	D3804-043	SKIDTUBE ASSEMBLY, 206 A/B HIGH
5	1	1	D2600-1-160	EXTRUSION
6	1	1	D2646	AFT CAP
7	1	1	D2647	CAP
8	19	20	D2649	CROSS BOLT SPACER
9	6	8	D2651-1	PLUG
10	6	8	D2651-3	O-RING
11		1	D2654-3	WEB
12	1		D2654-1	WEB
13	1	1	D2680-041	NUT PLATE
14	2	2	D3286-1	DOUBLER
15	2	2	D3286-3	STUD
21	2	2	AN960JD10L	WASHER
22	1	1	AN960JD416	WASHER
23	2	2	CCR264SS3-3	RIVET
24	2	2	CR3212-4-03	RIVET
25	52	52	CR3212-4-04	RIVET
26	2	2	MS27039-1-08	SCREW
27	1	1	MS27039-4-06	SCREW

#### NOTES

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 12.5 lb
- 9) WELD PER DART QSI 004
- 10) BENDING: DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 11) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 12) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 766616 M.C.J  
11/11/18

**RELEASED**  
UP 09.07.07  
per ECN 09-536

A	NEW ISSUE	MB	08.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	<u>91</u>	<b>DART AEROSPACE USA, INC</b>	
DRAWN	<u>3</u>	PORT HADLOCK, WA	
CHECKED	<u>4</u>	DRAWING NO.	REV. A
MFG. APPR.	<u>8</u>	D3804	SHEET 1 OF 5
APPROVED	<u>40</u>	TITLE	SCALE
DE APPR.	<u>1</u>	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

RELEASED  
4 09.03.03



DESIGN	<i>91</i>	<b>DART AEROSPACE USA, INC</b>	
DRAWN	<i>J</i>	PORT HADLOCK, WA	
CHECKED	<i>P</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>EE</i>	D3804	SHEET 2 OF 5
APPROVED	<i>91</i>	TITLE	SCALE
DE APPR.	<i>JE</i>	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE <b>08.07.07</b> COPYRIGHT © 2008 BY DART AEROSPACE USA, INC <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

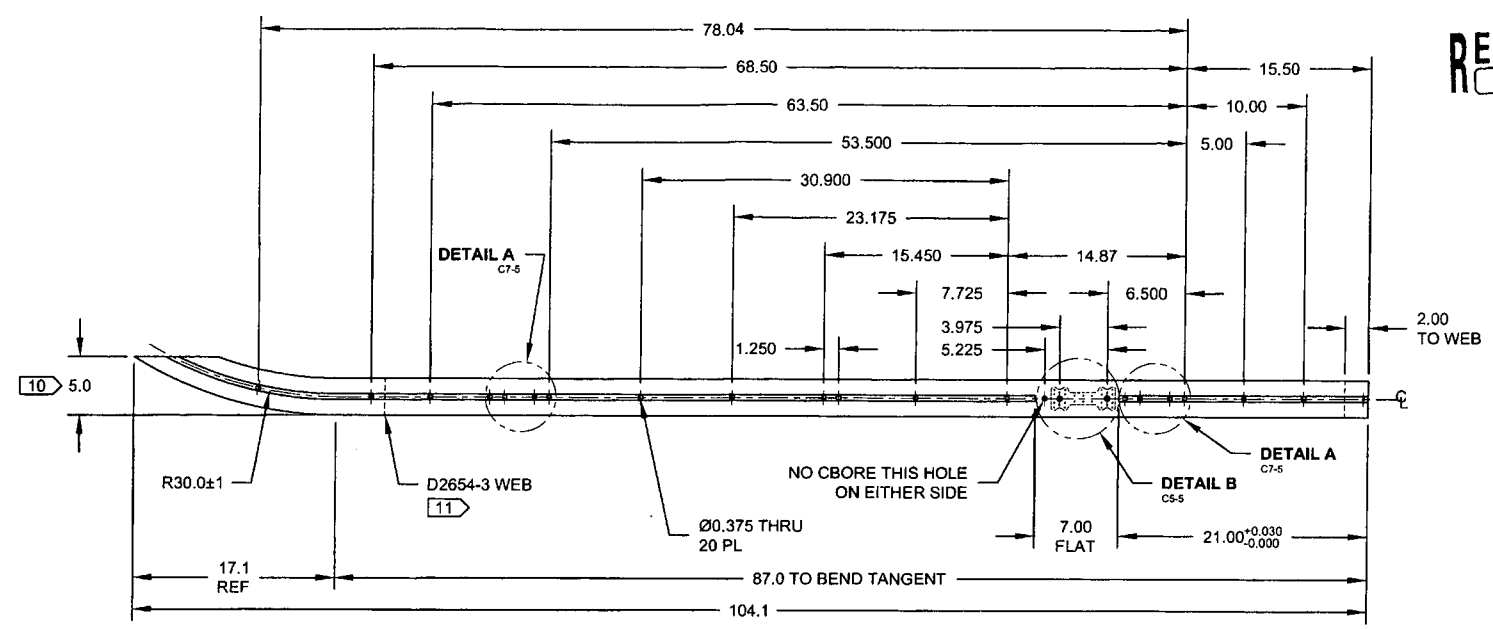
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

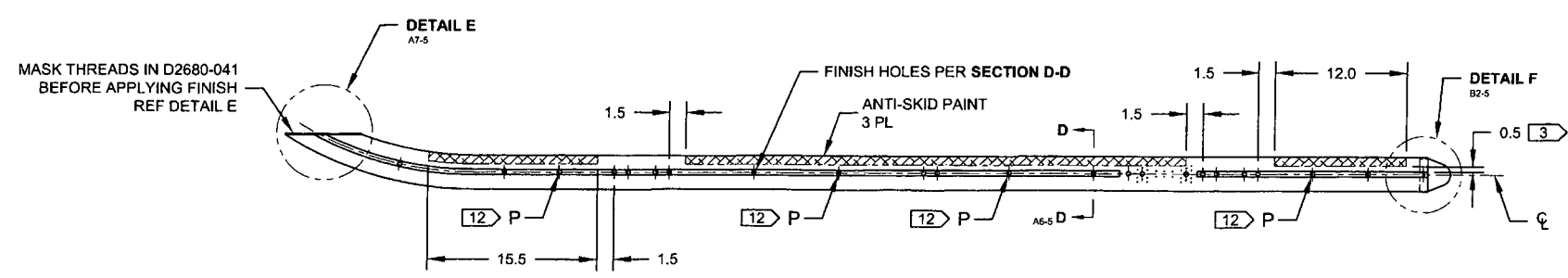
**NOTE:** Date & initial all entries

76616

RELEASED  
(09-03-03)



**D3804-043 BENDING/DRILLING DETAIL**



**D3804-043 ASSEMBLY/FINISHING DETAIL**

DESIGN	97	<b>DART AEROSPACE USA, INC</b>	
DRAWN	97	PORT HADLOCK, WA	
CHECKED	97	DRAWING NO.	REV. A
MFG. APPR.	97	D3804	SHEET 3 OF 5
APPROVED	97	TITLE	SCALE
DE APPR.	97	SKIDTUBE ASSEMBLY, 206A/B	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

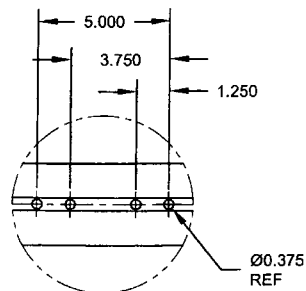
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

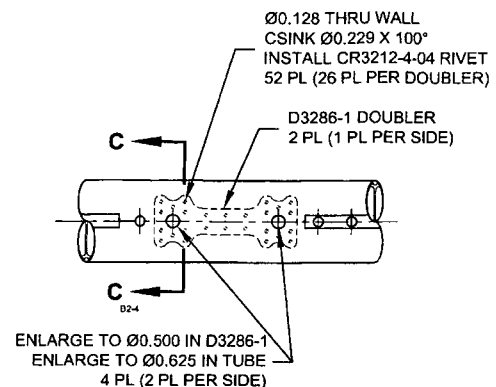
**NOTE:** Date & initial all entries

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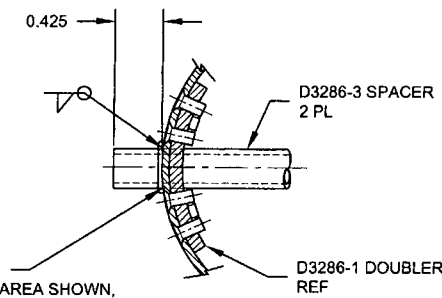
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UP 09.03.03



**DETAIL A**  
SCALE NONE

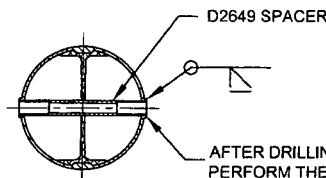


**DETAIL B**  
SCALE NONE



**SECTION C-C**  
PARTIAL SECTION  
SCALE NONE

- TO INSTALL D3286-1-3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH OUTSIDE SURFACE OF ROUND TUBE
  2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
  3. ENLARGE HOLES IN D3286-1 TO Ø0.500
  4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.03 X 45°
  5. RIVET D3286-1 TO TUBE
  6. INSERT D3286-3 SPACER
  7. WELD IN PLACE AND GRIND FLUSH



**SECTION D-D**  
FOR Ø0.375 HOLES ONLY  
SCALE NONE

- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.03 X 45°
  2. INSERT D2649 SPACER
  3. WELD INTO PLACE AND GRIND FLUSH
  4. CBORE TO Ø0.313 X 0.75 DP (EXCEPT WHERE INDICATED)

DESIGN	9	<b>DART AEROSPACE USA, INC</b>	
DRAWN	J	PORT HADLOCK, WA	
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MFG. APPR.	E	D3804	SHEET 4 OF 5
APPROVED	10	TITLE	SCALE
DE APPR.	H	SKIDTUBE ASSEMBLY, 206A/B	NTS
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

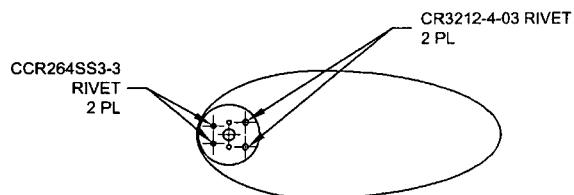
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

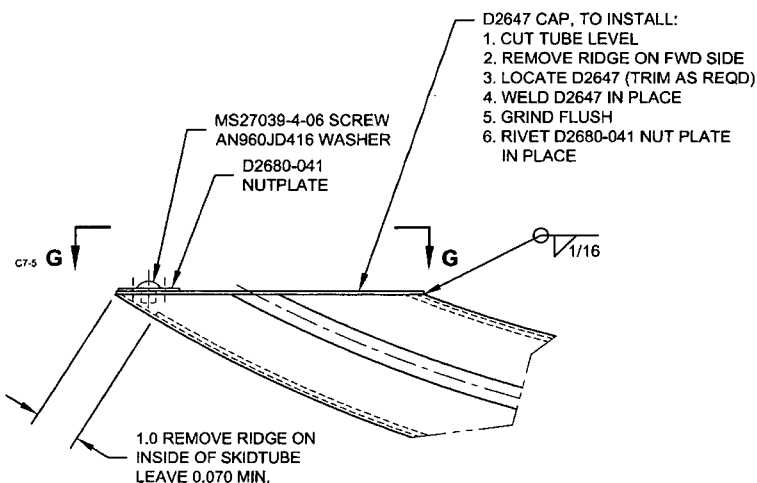


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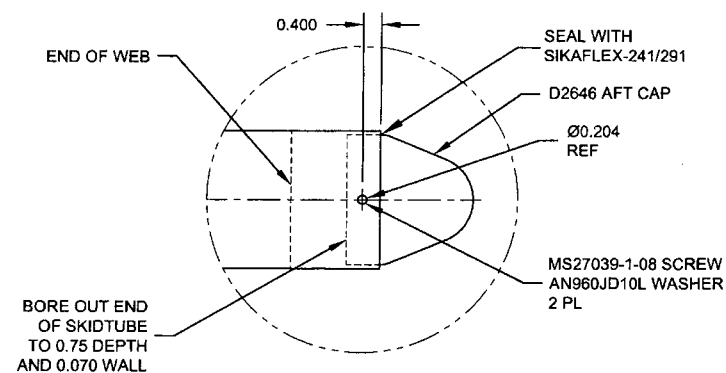
RELEASED  
09 03 03



**VIEW G-G**  
SCALE NONE A7-5



**DETAIL E**  
SCALE NONE B7-2 B7-3



**DETAIL F**  
SCALE NONE B2-2 B2-3

DESIGN	91	<b>DART AEROSPACE USA, INC</b>	
DRAWN	91	PORT HADLOCK, WA	
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MFG. APPR.	91	SHEET 5 OF 5	
APPROVED	91	TITLE	SCALE
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**NOTE:** Date & initial all entries

NO. 274

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 75391  
Part number: 206 642 151  
Description: 206 skid tube  
Welding Process: Tig ☒ Mig ☐  
Base material: Aluminum  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐  
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐  
Undercut: pass ☒ fail ☐  
Pin holes: pass ☒ fail ☐  
Overlap (cold lap): pass ☒ fail ☐  
Porosity (surface): pass ☒ fail ☐  
Coloration: pass ☒ fail ☐

Qualifier Sal Harris Date of Test Coupon 11-11-18

Welder Timothy Date of Test Coupon 11-11-18

The above named individual is qualified in accordance with AWS D17.1.2001 to weld